

Unit 5 Section 5.3 notes

These notes will be handed in at the end of class and will count as a quiz grade.

1. Read p. 236 and **Example 1** and **Example 2** on p. 237. Answer the **Try This** after the first example here.

$$\frac{\text{change in height}}{\text{change in length}} = \frac{4}{24} = \frac{1}{6} \text{ inches/foot}$$

The ramp rises about 0.83 inches per foot



2. Is the **rate of change** of a linear function the same as the **slope** of the linear graph that it represents? (see the bottom of p. 236)

Yes!

3. Read p. 238. What is **direct variation**? What is a **constant of variation**?

Direct variation is a type of rate of change. An example is average speed.

If y varies directly as x , then $y = k \cdot x$ where k is the constant of variation.

4. Read **Example 3** on p. 238. Answer the **Try This** after the example here.

$$y = kx$$

$$10 = k \cdot 2$$

So $k = 2$.

Constant of variation is 2.

Direct variation equation is $y = 2x$.



5. Read Example 4 on p. 238. Answer the Try This after the example here.

$$\frac{35}{7} = \frac{y}{84}$$

$$\frac{5}{1} = \frac{y}{84}$$

$$y = 420$$

6. Read Example 5 on p. 239. Answer the Try This after the example here.

$$F = kd$$

$$F = 28 \cdot 0.25$$

$$F = 7 \text{ Newtons}$$

7. Do questions 1-4 from the boxed Activity at the bottom of p. 239. Repeat with a constant of variation of 1 and 2. What do you notice about the **shape** of each direct variation graph? Do direct variation graphs always pass through the **origin**? How is the **slope** of each graph related to its constant of variation?

① $y = 0.5x$

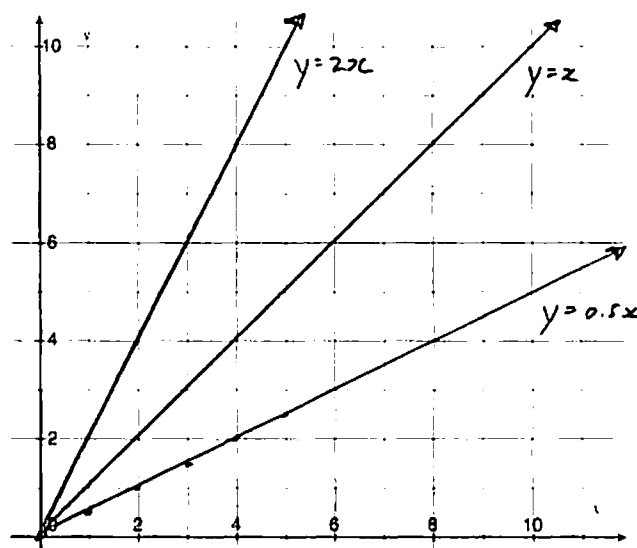
x	0	1	2	3	4	5
y	0	0.5	1	1.5	2	2.5

$$y = x$$

x	0	1	2	3	4	5
y	0	1	2	3	4	5

$$y = 2x$$

x	0	1	2	3	4	5
y	0	2	4	6	8	10



All are lines through the origin.

The slope is the constant of variation!

8. Begin work on the homework.

p. 240/1, 5-10, 13, 16, 23, 26, 28, 32-34, 53